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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,575	12/28/1999	Darrell D. Boggs	042390.P6871	1163

8791 7590 07/14/2003

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EXAMINER

VO, LILIAN

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 07/14/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/473,575	BOGGS ET AL.	
	Examiner	Art Unit	
	Lilian Vo	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 1999.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-83 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>1</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:   |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

**Group I**, claims 1 - 22 and 71 - 77, which drawn to a method and an apparatus for managing resources in a multithreaded processor comprising partitioning which sizing the corresponding portion for each thread according to a partitioning scheme, marking by specifying the lower and upper boundaries of each corresponding portion as being reserved, determining the type of the instructions to be executed for the allocated entries, comparing the value of the pointers to determine the availability for allocation, and wrapping the pointers when they advanced past the end of the respective portions and updating the wrap bits, classified in class 709, subclass 102.

**Group II**, claims 23 – 61 and 78 - 82, which drawn to a method and an apparatus for managing resources in a multithreaded processor comprising detecting a signal indicating a processing mode, which is updated in response to an occurrence of an event or a condition to perform resource allocation according to either single or multithread scheme, determining whether the set of instructions belongs to the respective thread by examining the value of the thread bit, and stalling with fetching of instructions from the respective thread if the stall signals is activated, classified in class 709, subclass 104.

**Group III**, claims 62 – 70, which drawn to a processor with an allocator, and an instruction delivery engine which fetches an invalid instruction to the allocator if the stall signal for the respective thread is activated, classified in class 712, subclass 1.

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2. The inventions are distinct, each from the other because of the following reasons:

Inventions I - III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as in a system lacking detecting a signal indicating a processing mode, which is updated in response to an occurrence of an event or a condition to perform resource allocation according to either single or multithread scheme, determining whether the set of instructions belongs to the respective thread by examining the value of the thread bit, and stalling with fetching of instructions from the respective thread if the stall signals is activated, and a processor with an allocator, and an instruction delivery engine which fetches an invalid instruction to the allocator if the stall signal for the respective thread is activated. Invention II has separate utility such as in a system lacking a processor with an allocator, and an instruction delivery engine, which fetches an invalid instruction to the allocator if the stall signal for the respective thread is activated. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for one group is not required for another group, restriction for examination purposes as indicated is proper.

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5. A telephone call was made to James Henry on 7/7/2003 to request an oral election to the above restriction requirement, but did not result in an election being made.

6. Applicants are advised that the reply to this requirement to be completed must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

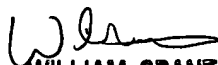
7. Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Lilian Vo  
Examiner  
Art Unit 2127

lv  
July 11, 2003

  
**WILLIAM GRANT**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

7/14/03